Saskatchewan
Highways and
Transportation

2002 Ferry Traffic and Seasonal Road

Annual Report

Operational Planning and
Business Support Branch

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Executive Summary

This report summarizes traffic data collected at the 12 cable-stayed ferries and one free swimming ferry barge operated by the Department of Highways and Transportation during 2002. The report provides an analysis of passenger and vehicle volumes as well as traffic composition. Information about four seasonal roads operated by the Department is also included.

The main findings of the 2002 report are listed below.

- The 2002 operating season was shorter than 2001 for 11 of the ferries. Weather conditions caused most ferries to open later and close earlier than in 2001. On average, the 2002 season was 18 days shorter than in 2001.
- The ferry system operated below the 10 year average traffic levels. In 2002, half of the 12 cable ferries carried the lowest traffic volumes in 10 years. Only the Paynton and Cecil ferries had higher Average Daily Traffic (ADT) in 2002 than 2001.
- A sandbar formed at the Lancer ferry in 2001, causing the ferry to stop operating in August, 2001. This shutdown shifted traffic to the neighbouring Lemsford ferry. In 2002, the traffic shifted back to the Lancer ferry, resulting in a 66 per cent traffic volume increase at Lancer and a 36 per cent decrease at Lemsford.
- The Clarkboro ferry had the highest traffic volume.
- The South Saskatchewan River ferries in the Swift Current area shut down for several days in June and July due to high water levels.
- The Riverhurst seasonal road was not opened in 2002.
- Truck percentages doubled at the Lemsford ferry since 2001 and at the St. Laurent ferry since 2000.

The 2002 report recommends:

- When the operating agreement for the Wollaston Barge ferry is renegotiated, operators should be required to use the same vehicle classification system as the other ferries.
- Department staff should start collecting passenger data on the St. Laurent ferry in 2003.

1.0 Introduction

This annual report provides a summary and analysis of the traffic using the provincial ferry system in 2002. Traffic data is reported for 13 ferry sites the Department of Highways and Transportation operated in 2002. Passenger data for 11 of the ferry sites and operational information about the four seasonal roads operated by the Department is also included in this report.

This report also examines vehicle types and historic traffic for each ferry. Useful insights into the function of each ferry can be obtained by examining the distribution and composition of ferry traffic.

It is important to note:

- Differences in ferry volumes from year to year are partially due to variable operating seasons.
- The vehicle classification data for some vehicles are too small a sample to support accurate conclusions.
- Operational data, such as open and close dates, from the seasonal roads are not comparable from road to road.

2.0 Background

The Department operated 12 cable-stayed ferries and one free swimming ferry barge during 2002. Cable-stayed ferries operated on the North Saskatchewan, South Saskatchewan Rivers and on Lake Diefenbaker. The only free swimming ferry operates on Wollaston Lake to serve the community of Wollaston Lake. Other than replacing the Cumberland ferry with a bridge in 1996, the ferry system has not changed since responsibility for the system was moved to the Department in 1992. Ferry locations are shown in the table below.

Table 1. Ferry Locations

Ferry	Location	Department Region
Clarkboro	South Saskatchewan River	Central Region
Riverhurst	Lake Diefenbaker	Southern Region
Paynton	North Saskatchewan River	Central Region
Weldon	South Saskatchewan River	Northern Region
St. Laurent	South Saskatchewan River	Central Region
Cecil	North Saskatchewan River	Northern Region
Lemsford	South Saskatchewan River	Northern Region
Hague	South Saskatchewan River	Central Region
Wingard	North Saskatchewan River	Central Region
Estuary	South Saskatchewan River	Southern Region
Fenton	South Saskatchewan River	Northern Region
Lancer	South Saskatchewan River	Southern Region
Wollaston Barge	Wollaston Lake	Northern Region

Ferry traffic data is collected by the ferry operators and forwarded to the Traffic Engineer, who analyzes and compiles this annual report. The vehicle classification forms used by ferry operators are shown in Appendix A.

During the winter months, the Department operates four seasonal roads, which are approximately 454 km in total length. These roads provide access to isolated communities and seasonal industrial activities. The operational periods of the seasonal roads vary considerably from year to year because of winter conditions. Seasonal road locations are shown in the table below.

Table 2. Seasonal Road Locations

Seasonal Road	Location	Length	Region
Cumberland House	Hwy 9 to Cumberland House	52	Northern Region
Riverhurst	Hwy 42 across Lake Diefenbaker	2	Southern Region
Wollaston Lake	Hwy 905 to Wollaston Lake	46	Northern Region
Athabasca Basin	Points North Landing to Uranium City	355	Northern Region

The locations of the ferries and seasonal roads, including ice crossings, are shown on the map on the following page.

Saskatchewan
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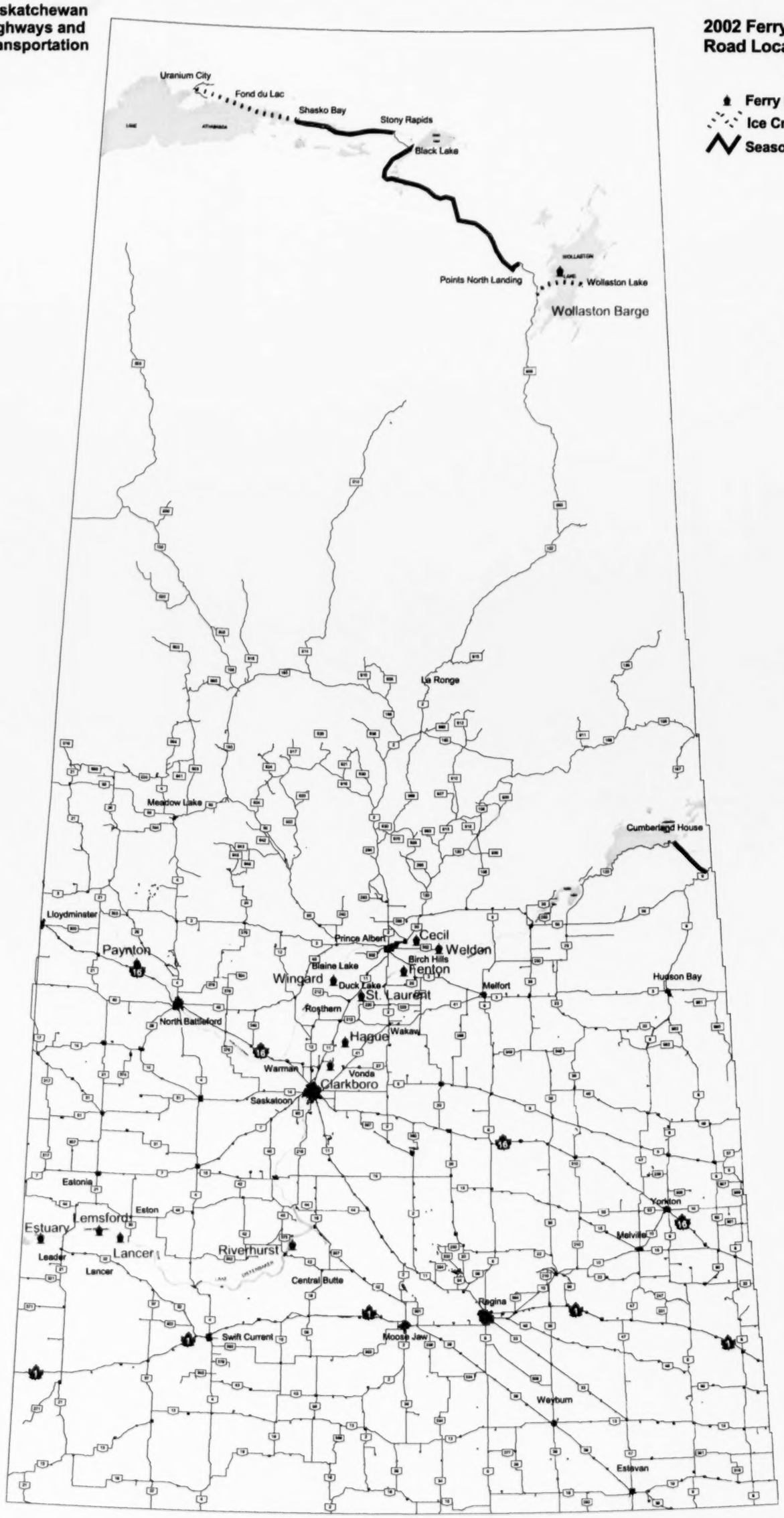
2002 Ferry and Seasonal Road Locations



3.0 Ferry Operating Seasons

All ferries, except the Riverhurst ferry and the Wollaston Barge ferry, operate 12 hours per day between the hours of 7:00 am and 7:00 pm. The Wollaston Barge ferry operates between 6:00 am and 6:00 pm, weather permitting, and the Riverhurst ferry operates 24 hours per day. Ferries do not run at times because of mechanical failure, bad weather or poor river conditions. The table below summarizes the 2002 operational season including downtime at all cable-stayed ferries in the province. Details of the downtime periods and their causes are shown in Appendix B. Generally, the 2002 operating season was shorter than in 2001 due to adverse weather conditions.

Table 3. 2002 Ferry Operating Season Statistics

Ferry	Season				Out of Service	
	Opening	Closing	Length (days)	Operating Hours	Hours	Per cent
Clarkboro	26-Apr	11-Nov	199	2376	12	0.5
Riverhurst	5-May	9-Dec	218	5116	116	2.2
Paynton	8-May	28-Oct	173	2076		0.0
Weldon	8-May	24-Oct	169	2028		0.0
St. Laurent	1-May	31-Oct	183	2196		0.0
Cecil	10-May	24-Oct	167	2004		0.0
Lemsford	24-Apr	30-Oct	189	2184	84	3.7
Hague	2-May	31-Oct	182	2184		0.0
Wingard	1-May	24-Oct	176	2064	48	2.3
Estuary	23-Apr	30-Oct	190	1951	329	14.4
Fenton	9-May	24-Oct	168	1938	78	3.9
Lancer	20-Apr	31-Oct	194	2044	284	12.2

4.0 Traffic Volumes

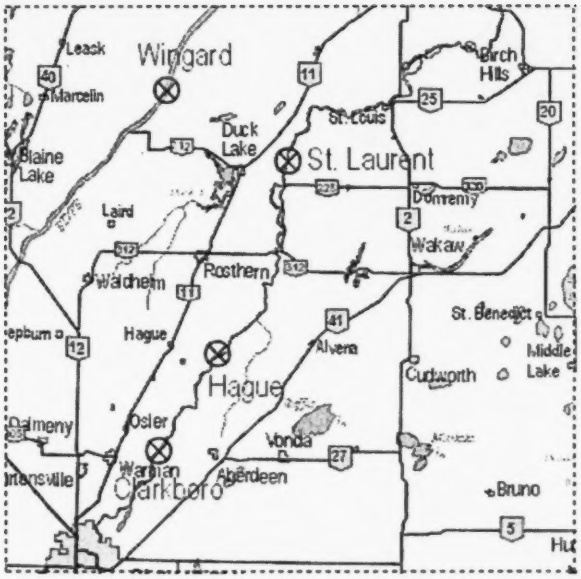
The table below summarizes the 2002 monthly traffic at all of the cable-stayed ferry sites. Historic traffic volumes for these ferries are shown in Appendix C. The average number of vehicles using the ferry per day is represented by the Average Daily Traffic (ADT). Historic ADT is shown in Appendix D. ADT at the Riverhurst ferry can not be directly compared to other ferries because it is based on a 24 hour period whereas ADT for all other ferries is based on a 12 hour period.

Table 4. Monthly Ferry Traffic Volumes for the 2002 Season

Ferry	April	May	June	July	Aug	Sep	Oct	Nov	Dec	Total	ADT
Clarkboro	754	7 752	7 697	7 758	8 280	7 262	6 750	982		47 235	239
Riverhurst		4 310	5 562	8 858	6 919	4 235	4 092	2 942	660	37 578	176
Paynton		3 336	5 731	6 004	5 730	4 676	3 433			28 910	167
Weldon		3 233	4 780	3 863	4 133	3 839	2 613			22 461	133
St. Laurent		2 435	3 182	4 855	3 239	2 423	1 968			18 102	99
Cecil		1 613	2 262	2 321	2 283	2 205	1 189			11 873	71
Lemsford	230	1 470	1 314	2 300	1 766	1 543	1 408			10 031	55
Hague		1 678	1 679	1 950	1 672	1 638	1 389			10 006	55
Wingard		1 292	2 859	1 702	1 318	1 181	1 016			9 368	54
Estuary	272	177	596	1 429	1 669	1 251	1 318			6 712	41
Fenton		844	1 221	1 385	1 062	1 103	846			6 461	40
Lancer	312	868	391	849	1 141	1 058	884			5 503	32
Monthly Totals	**1 568**	**29 008**	**37 274**	**43 274**	**39 212**	**32 414**	**26 906**	**3 924**	**660**	**214 240**	

The ferry traffic data is summarized by the Department's maintenance areas. This system results in five groupings: Saskatoon, Prince Albert, North Battleford, Swift Current and Moose Jaw.

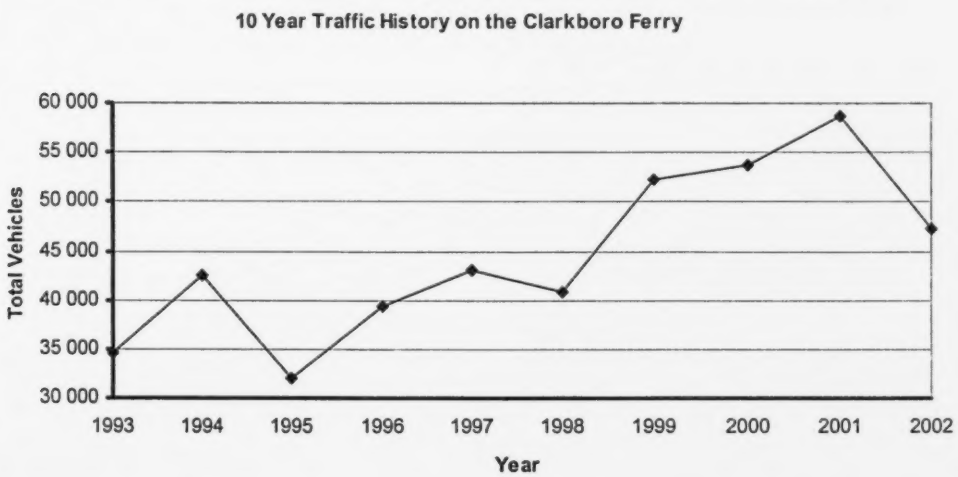
4.1 Saskatoon Area



The Saskatoon area contains four ferries: Clarkboro, St. Laurent, Hague and Wingard. The neighboring Clarkboro and St. Laurent ferries have historically carried annual traffic in the 44 000 and 22 000 vehicles range respectively. The Hague and Wingard ferries have historically carried annual traffic in the 14 000 and 11 000 vehicles range respectively. In 2002, traffic at all four ferries was lower than 2001 volumes.

The Wingard ferry was closed four days in July because of low waters.

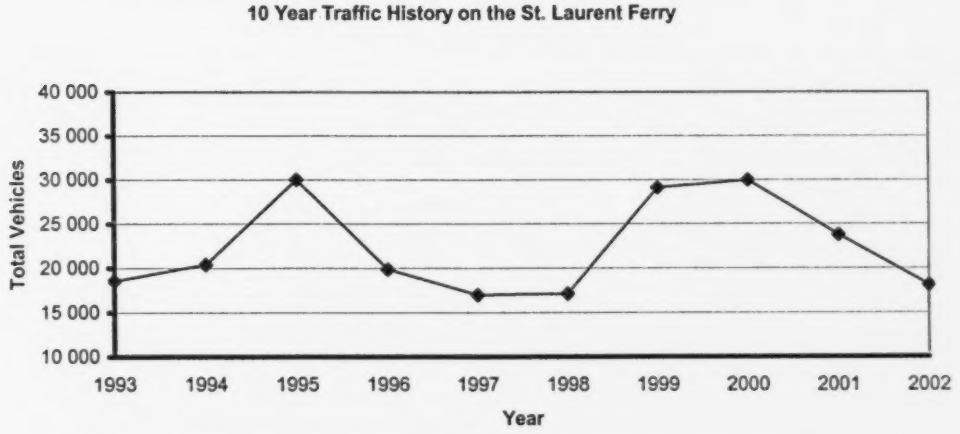
Chart 4.1A 10 Year History of Traffic on the Clarkboro Ferry



	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Volume	34 674	42 448	31 975	39 338	42 991	40 839	52 185	53 780	58 667	47 235
ADT					218	206	234	255	256	239

Traffic on the Clarkboro decreased by 19 per cent in 2002 after continual increases in past years. ADT decreased by seven per cent from the six year high recorded in 2001.

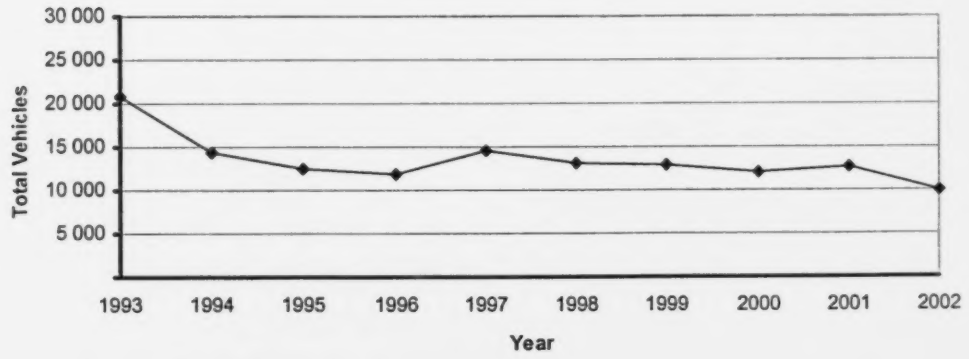
Chart 4.1B 10 Year History of Traffic on the St. Laurent Ferry



	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Volume	18 556	20 421	30 030	19 875	16 987	17 133	29 143	29 980	23 796	18 102
ADT					91	85	130	147	111	99

Traffic on the St. Laurent ferry decreased by 24 per cent and ADT by 11 per cent in 2002, continuing the decline started in 2001.

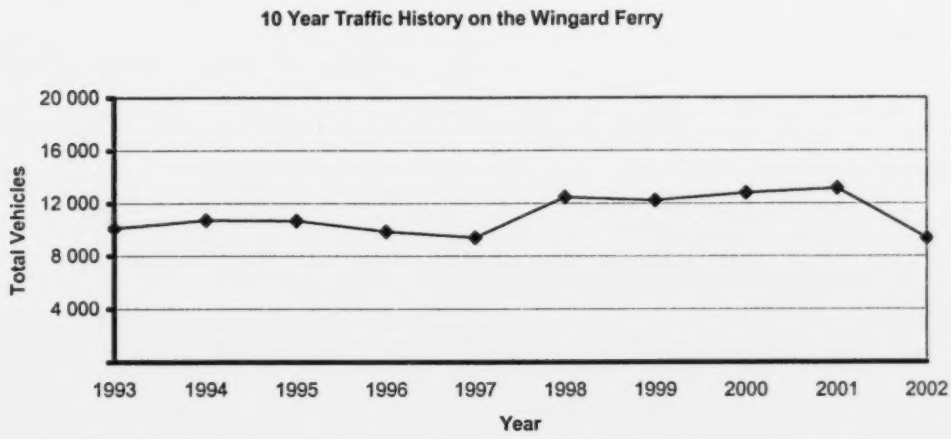
Chart 4.1C 10 Year History of Traffic on the Hague Ferry



	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Volume	20 883	14 442	12 425	11 961	14 577	13 122	12 845	12 156	12 652	10 006
ADT					75	68	58	61	59	55

Traffic on the Hague ferry decreased by 21 per cent to the lowest volumes in 10 years.

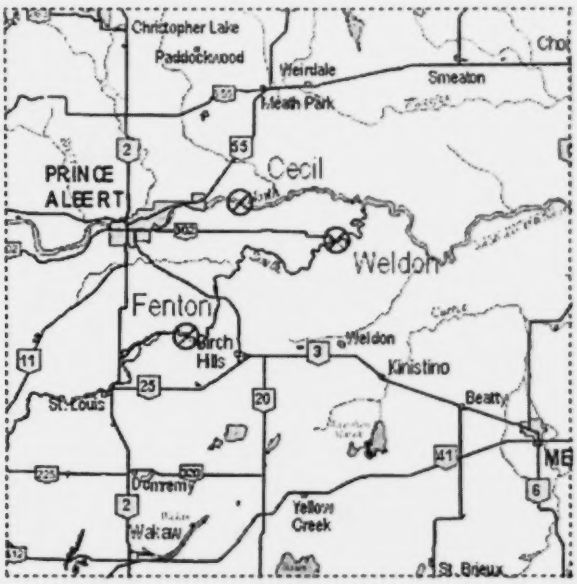
Chart 4.1D 10 Year History of Traffic on the Wingard Ferry



	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Volume	10 115	10 719	10 687	9 878	9 420	12 467	12 227	12 791	13 158	9 368
ADT					50	63	63	63	66	54

Traffic on the Wingard ferry dropped by 29 per cent to a new 10 year low. ADT decreased by 17 per cent from 2001.

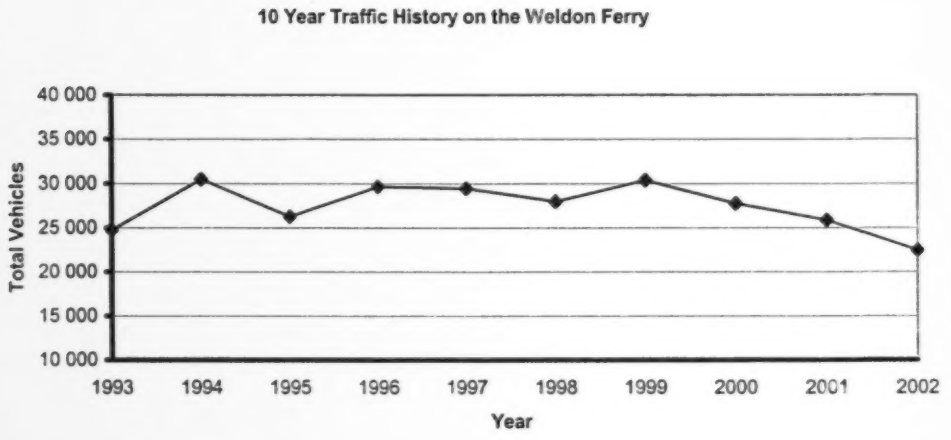
4.2 Prince Albert Area



The Prince Albert area includes the Weldon, Cecil and Fenton ferries. The 2002 traffic volumes all dropped compared to 2001. However, the ADT at Cecil increased by six per cent.

The Fenton Ferry was closed for seven days in August because of the formation of a sandbar.

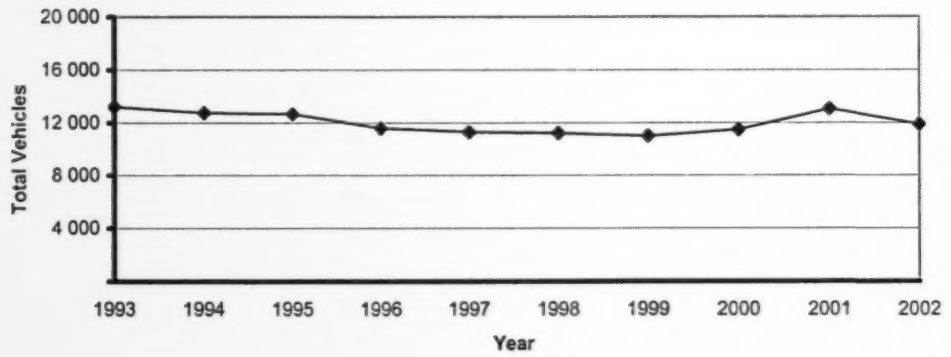
Chart 4.2A 10 Year History of Traffic on the Weldon Ferry



	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Volume	24 754	30 465	26 268	29 657	29 455	28 003	30 382	27 770	25 875	22 461
ADT					153	142	159	141	135	133

In 2002, the Weldon ferry continued the downward trend started in 2000, but the ADT was relatively constant.

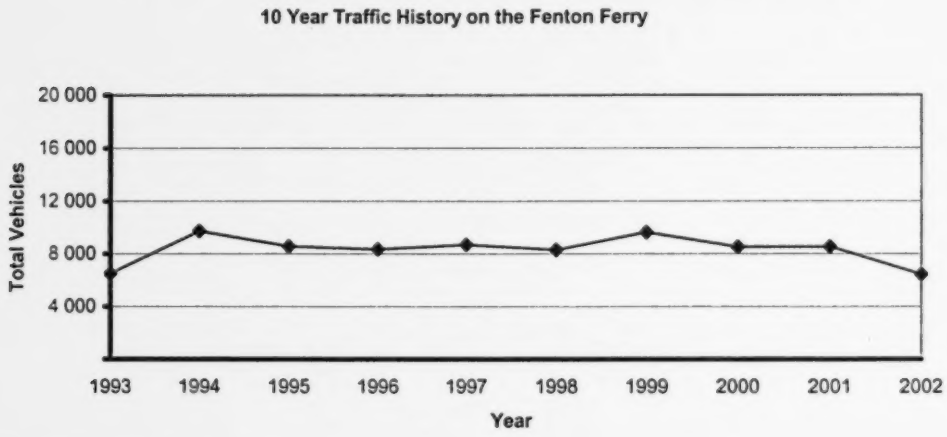
Chart 4.2B 10 Year History of Traffic on the Cecil Ferry



	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Volume	13 210	12 752	12 678	11 603	11 303	11 234	11 016	11 484	13 073	11 873
ADT					59	57	58	57	67	71

The Cecil ferry traffic decreased from 2001 by nine per cent, but is still very close to the 10 year average. The ADT actually increased by six percent.

Chart 4.2C 10 Year History of Traffic on the Fenton Ferry



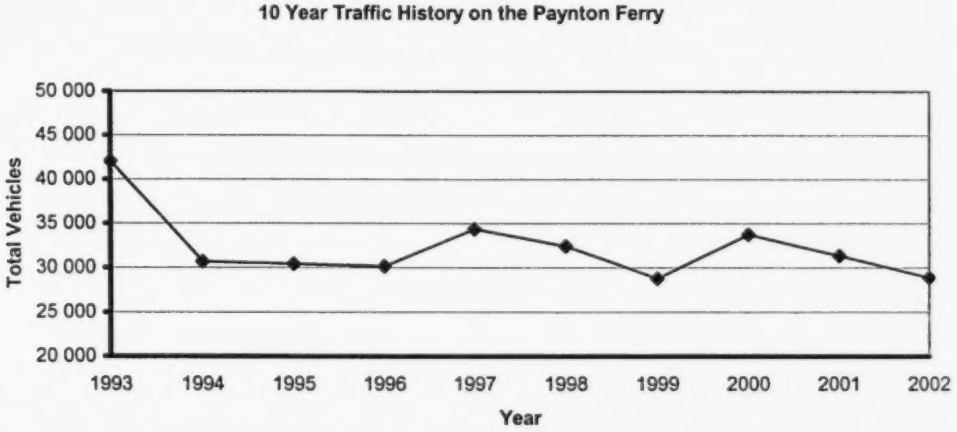
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Volume	6 517	9 730	8 582	8 366	8 716	8 324	9 640	8 533	8 563	6 461
ADT					45	43	51	45	45	40

Traffic on the Fenton ferry decreased 25 per cent in 2002 to the lowest volumes in 10 years. The ADT dropped nearly 11 per cent from 2001.

4.3 North Battleford Area

The North Battleford area has only the Paynton ferry. Paynton has carried an average of 32 300 vehicles over the past 10 years

Chart 4.3A 10 Year History of Traffic on the Paynton Ferry



	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Volume	42 058	30 686	30 453	30 172	34 365	32 453	28 808	33 749	31 348	28 910
ADT					210	159	141	170	158	167

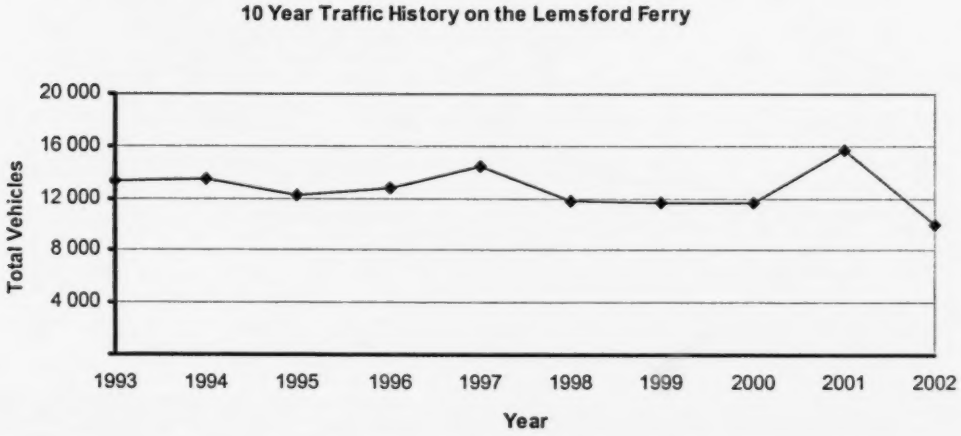
Traffic volumes at Paynton in 2002 continued the gradual decline started in 2001. The ADT increased by six per cent over 2001.

4.4 Swift Current Area

The Swift Current area has three ferries: Lemsford, Estuary and Fenton. Traffic volumes decreased on the Lemsford and Estuary ferries but increased on the Lancer ferry. In 2001, the Lancer shut down for the season in August because a sandbar formed under the ferry route. As a result, many vehicles used the Lemsford ferry, increasing traffic volumes at Lemsford.

In 2002, the ferries struggled with high water levels in June and July. Lemsford was closed for seven, Estuary for 23 and Lancer for 24 days. For a few days before and after the closures, only light loads were allowed on the ferries.

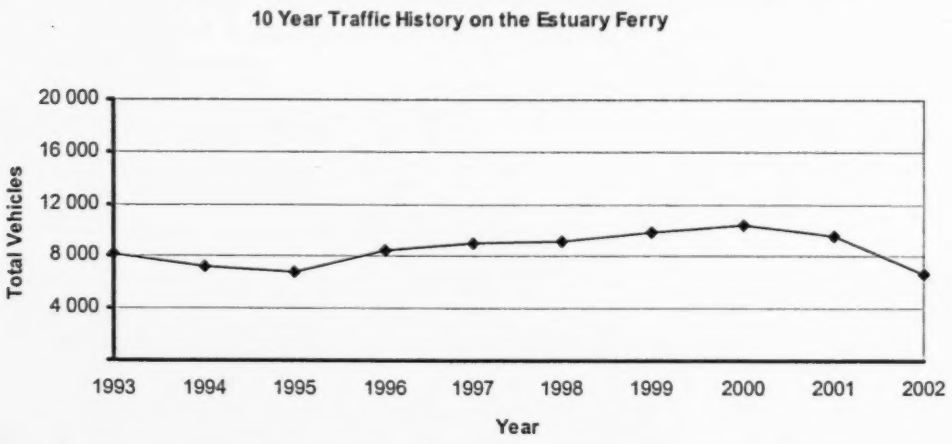
Chart 4.4A 10 Year History of Traffic on the Lemsford Ferry



	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Volume	13 381	13 471	12 170	12 805	14 393	11 849	11 730	11 623	15 659	10 031
ADT					68	58	52	58	69	55

Traffic volumes on the Lemsford ferry decreased by 36 per cent from 2001, to a new 10 year low. The peak observed in 2001 occurred because many vehicles were diverted to the Lemsford ferry when the Lancer ferry shut down early.

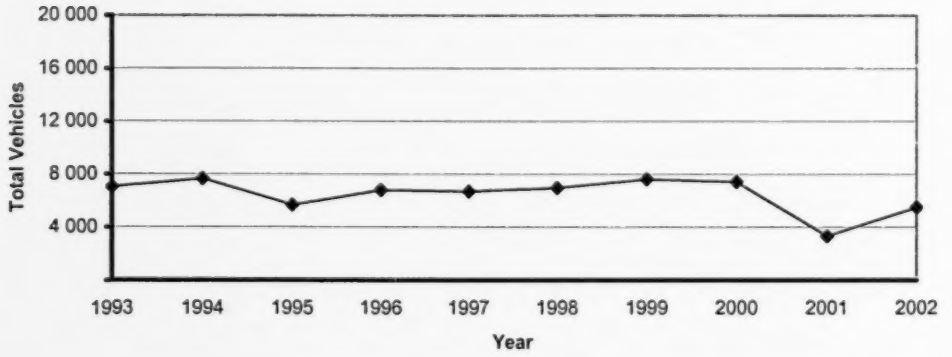
Chart 4.4B 10 Year History of Traffic on the Estuary Ferry



	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Volume	8 153	7 278	6 844	8 463	9 058	9 217	9 793	10 437	9 541	6 712
ADT					44	47	44	52	48	41

Traffic on the Estuary ferry decreased by 30 per cent in 2002. This decrease is partially due to the ferry closing for 23 days in June and July due to high water levels.

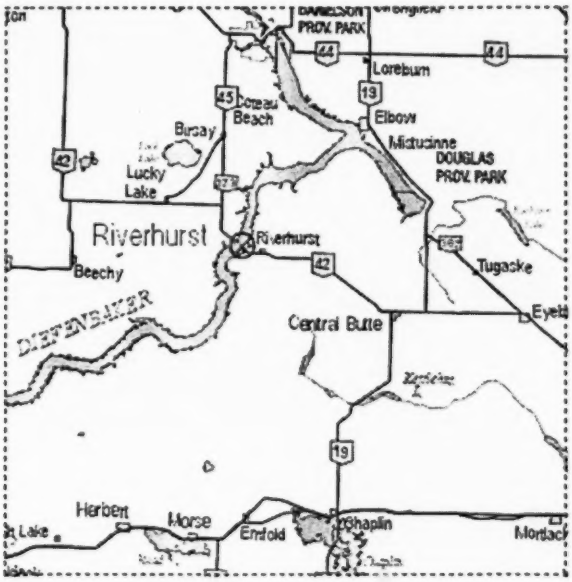
Chart 4.4C 10 Year History of Traffic on the Lancer Ferry



	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Volume	7 047	7 649	5 673	6 789	6 685	6 967	7 604	7 421	3 324	5 503
ADT					33	33	34	37	34	32

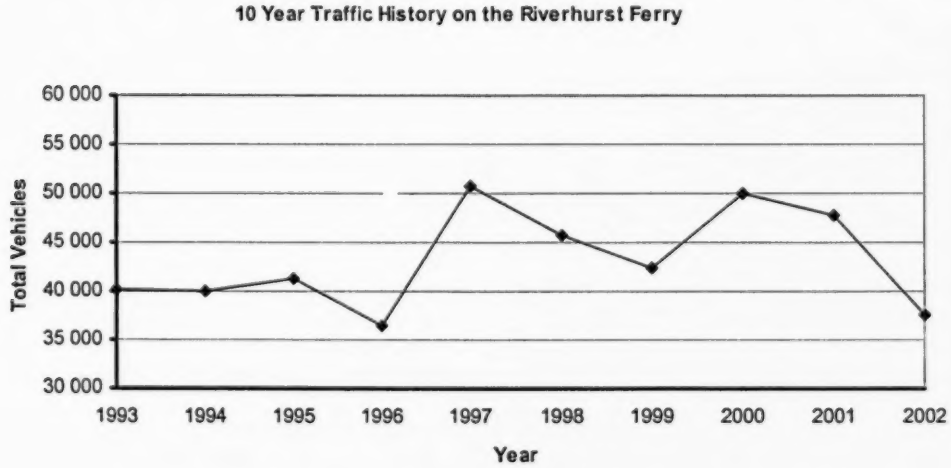
In 2002, the traffic on the Lancer ferry increased by 66 per cent. Even though high water levels caused the ferry to be closed for 24 days in June and July, the operating season was much longer than in 2001. In 2001, the ferry closed for the season in August because a sandbar formed under the stay cable.

4.5 Moose Jaw Area



The Moose Jaw area contains only the Riverhurst ferry, which is the largest and most sophisticated cable ferry in the province. Unlike any other cable ferry in the system, Riverhurst is located on a provincial highway, No. 42, and carries vehicles two kilometres across Lake Diefenbaker. The Riverhurst ferry has carried traffic volumes in the 43 000 vehicles per year range over the last 10 years. In 2002, traffic was approximately 37 600 vehicles.

Chart 4.5A 10 Year History of Traffic on the Riverhurst Ferry



	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Volume	40 242	40 076	41 291	36 449	50 766	45 763	42 424	50 010	47 867	37 578
ADT					213	190	174	216	204	176

Traffic on the Riverhurst ferry decreased by 21 per cent over 2001, the lowest volumes since 1996. ADT decreased by 14 per cent from 2001.

5.0 Vehicle Classifications

Ferry operators record traffic using the ferries by vehicle type. The vehicle classification analysis is divided into the same geographical areas used for traffic volumes. The breakdown of vehicle types for each location is summarized in the charts below.

Chart 5.0A 2002 Straight Trucks by Location

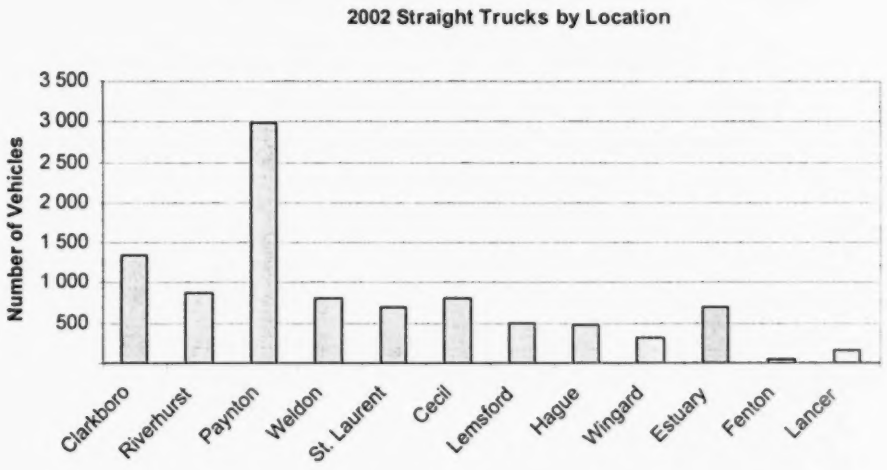


Chart 5.0B 2002 Single-Trailer Trucks by Location

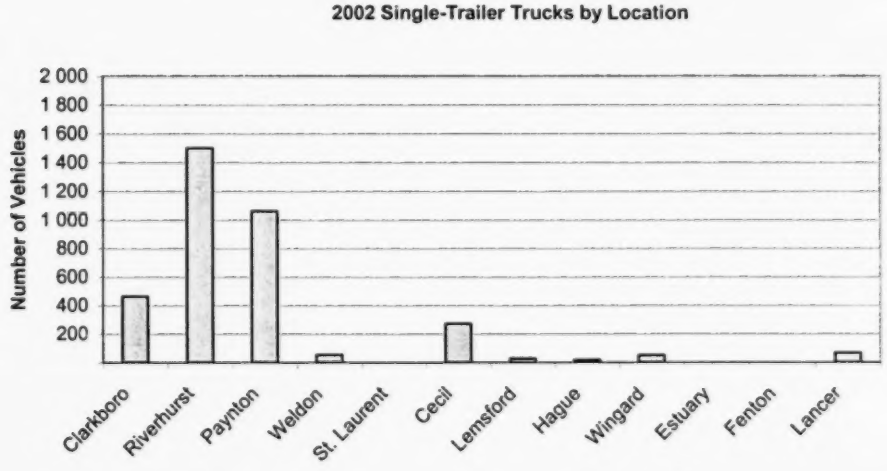
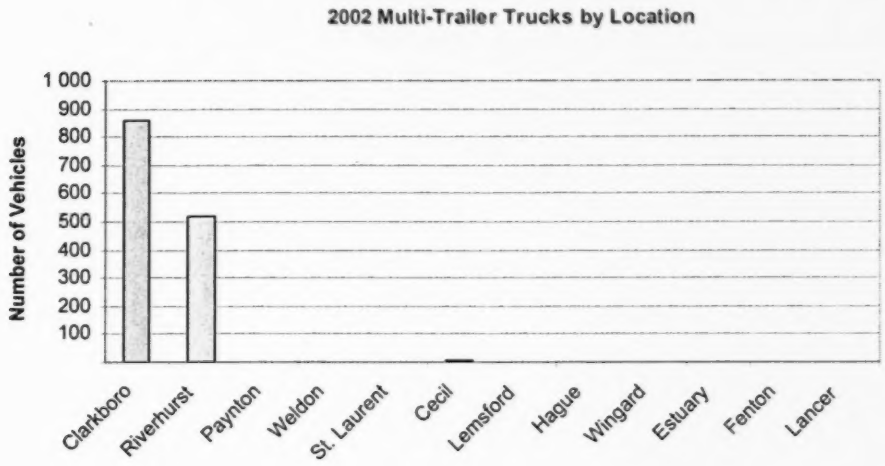
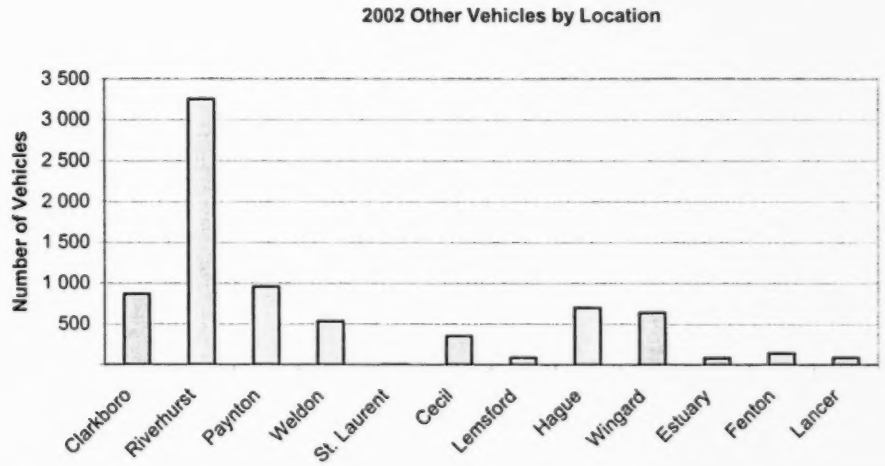


Chart 5.0C 2002 Multi-Trailer Trucks by Location



Most ferries are not long enough to accommodate multi-trailer trucks.

Chart 5.0D 2002 Other Vehicles by Location

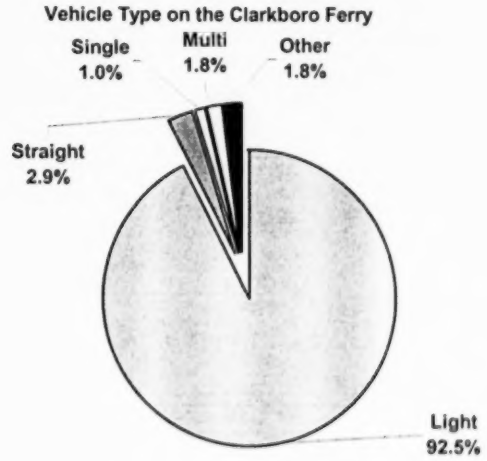


The vehicle category "other" normally refers to farm or construction equipment except near recreation areas, where they are often recreational vehicles or passenger vehicles pulling a boat or camping trailer.

5.1 Saskatoon Area

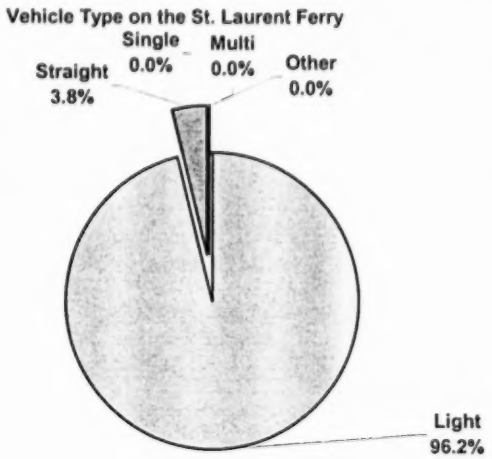
Clarkboro is one of only two ferries that can easily accommodate multi-trailer vehicles. The Hague and the Wingard ferries carry a high percentage of "other" vehicles, indicating that these ferries are on local routes used by farmers. The percentage of trucks using the Hague ferry has doubled in the last three years.

Chart 5.1A 2002 Vehicle Types Using the Clarkboro Ferry



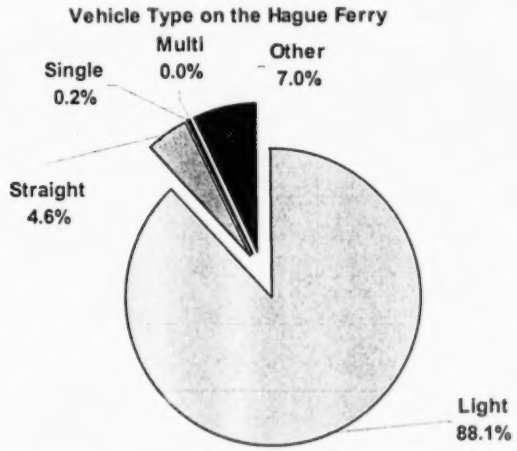
	1998	1999	2000	2001	2002
Truck %	3.6	4.0	4.6	5.6	5.7

Chart 5.1B 2002 Vehicle Types Using the St. Laurent Ferry



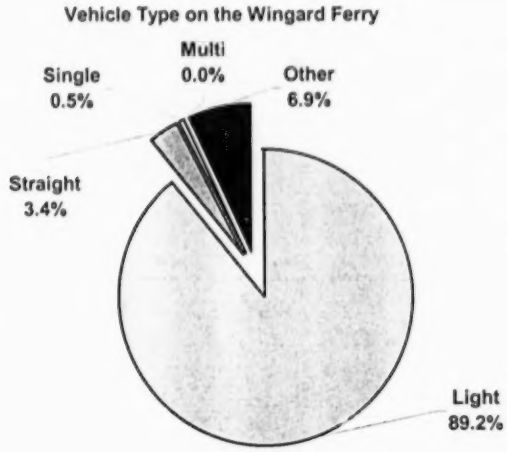
	1997	1998	1999	2000	2001	2002
Truck %	2.4	1.6	1.8	1.9	2.6	3.8

Chart 5.1C 2002 Vehicle Types Using the Hague Ferry



	1998	1999	2000	2001	2002
Truck %	12.5	6.4	6.4	4.6	4.8

Chart 5.1D 2002 Vehicle Types Using the Wingard Ferry

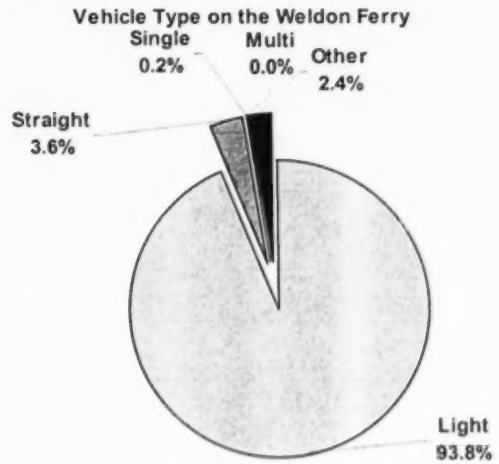


	1997	1998	1999	2000	2001	2002
Truck %	6.8	5.4	4.2	3.4	3.2	3.9

5.2 *Prince Albert Area*

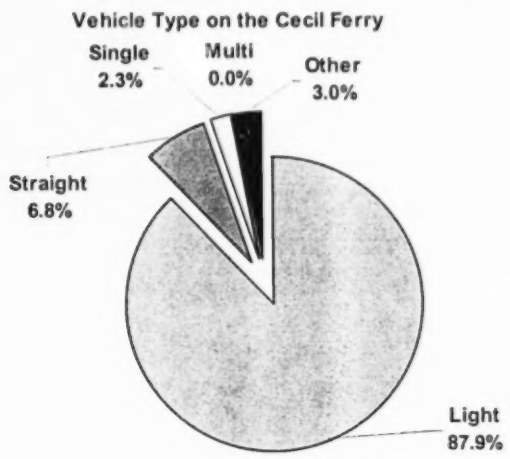
Weldon carries vehicle types that are indicative of a local route. Cecil has consistently carried a large proportion of trucks. The high percentage of non-articulated trucks at Cecil indicates that it is on a short distance haul route. Traffic on the Fenton ferry was almost exclusively passenger vehicles.

Chart 5.2A 2002 Vehicle Types Using the Weldon Ferry



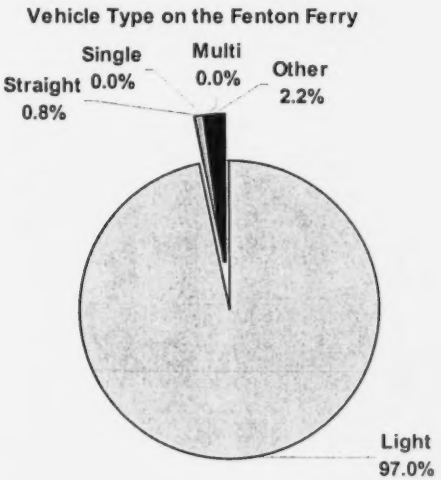
	1997	1998	1999	2000	2001	2002
Truck %	7.8	4.8	5.1	4.5	5.2	3.8

Chart 5.2B 2002 Vehicle Types Using the Cecil Ferry



	1997	1998	1999	2000	2001	2002
Truck %	10.9	10.9	10.8	9.5	10.1	9.1

Chart 5.2C 2002 Vehicle Types Using the Fenton Ferry

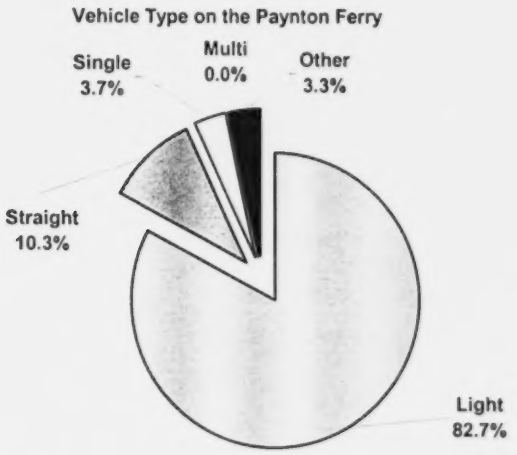


	1997	1998	1999	2000	2001	2002
Truck %	2.8	1.1	2.8	1.2	1.0	0.8

5.3 North Battleford Area

Paynton serves as a freight haul link to Highway No.16, as demonstrated by the relatively high percentage of trucks that used the ferry in 2002. The percentage of trucks has increased in each of the last five years.

Chart 5.3A 2002 Vehicle Types Using the Paynton Ferry

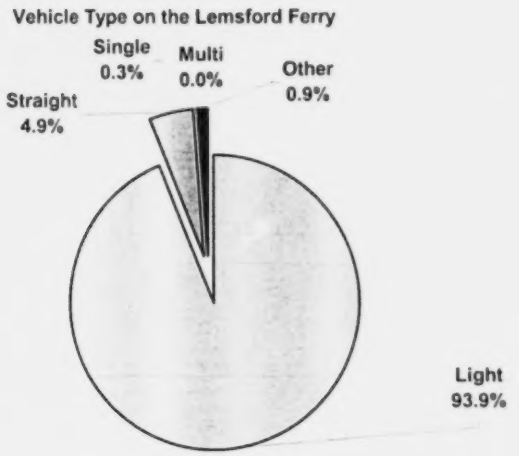


	1998	1999	2000	2001	2002
Truck %	9.4	10.3	11.0	12.0	14.0

5.4 Swift Current Area

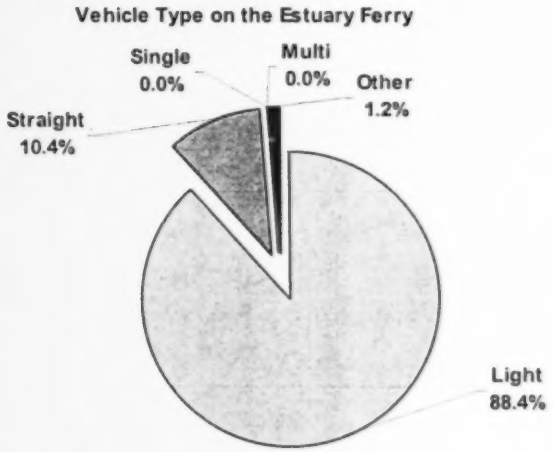
The Swift Current area ferries all serve predominately rural populations. Both the Lemsford and Lancer ferries carry a moderate percentage of non-articulated farm trucks and equipment. At Lemsford, the percentage of trucks doubled since 2001. In July, reporting of vehicle types was altered at the Estuary ferry. Straight trucks and "other" vehicle groups were combined for the remainder of the season. Estuary historically carries a fairly high percentage of farm trucks and farm equipment.

Chart 5.4A 2002 Vehicle Types Using the Lemsford Ferry



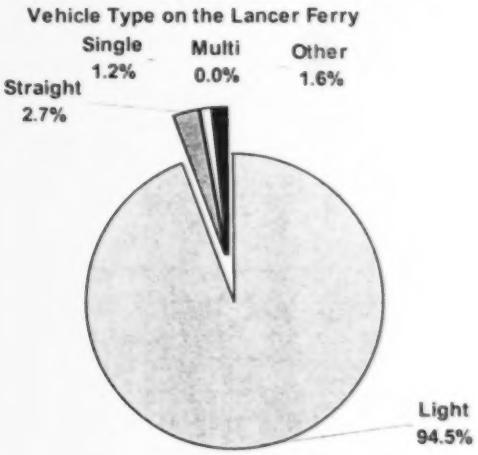
	1998	1999	2000	2001	2002
Truck %	4.0	3.9	3.6	2.5	5.2

Chart 5.4B 2002 Vehicle Types Using the Estuary Ferry



	1998	1999	2000	2001	2002
Truck %	5.1	9.3	5.4	4.7	10.4

Chart 5.4C 2002 Vehicle Types Using the Lancer Ferry

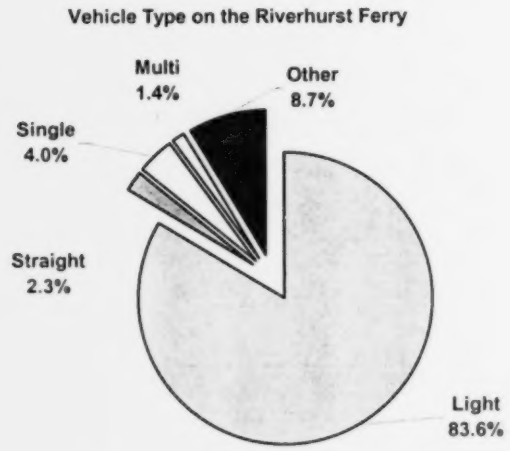


	1998	1999	2000	2001	2002
Truck %	2.4	4.0	3.7	2.3	3.9

5.5 Moose Jaw Area

The Riverhurst ferry is the largest and most sophisticated cable ferry in the system. It is also the only cable ferry located on the provincial highway system. Riverhurst has the highest percentage of "other" vehicles. At Riverhurst, "other" vehicles usually refers to campers, boats and other recreational vehicles.

Chart 5.5A 2002 Vehicle Types Using the Riverhurst Ferry

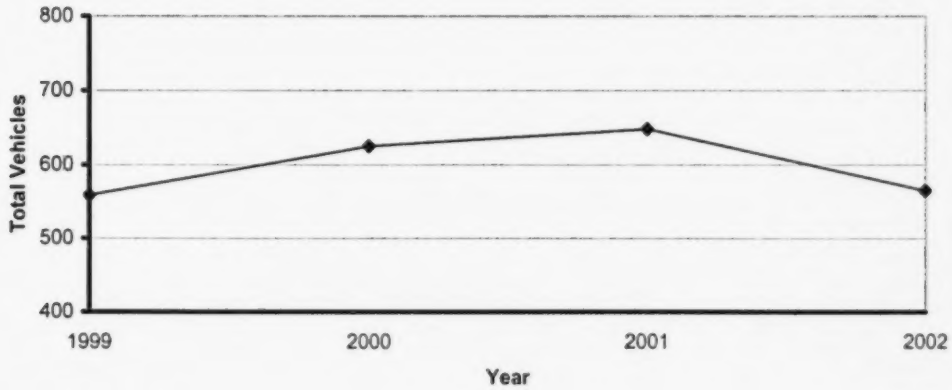


	1998	1999	2000	2001	2002
Truck %	7.3	7.9	5.5	7.0	7.7

6.0 Wollaston Barge Ferry

The Wollaston Barge ferry connects the community of Wollaston Lake to Highway No. 905. This vessel is unique because it is the only free-swimming ferry operated in the province and is the only ferry that charges a fee. The Hatchet Lake Economic Development Corporation operates the ferry for the Department. The operational season at Wollaston Lake is shorter than other ferries in the province because of the northern location. This ferry carries significantly lower traffic volumes than the southern ferries because the length of the crossing only allows up to three round trips each day. A total of 565 vehicles used this ferry in 2002, which is 13 per cent less than 2001. The ferry opened on June 25, 2002 and closed on October 15, 2002.

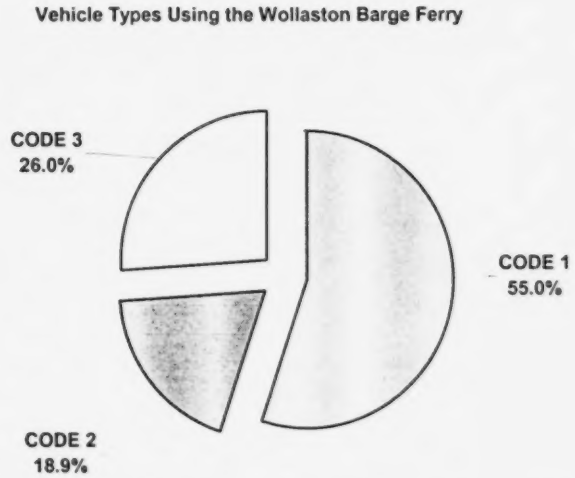
Four Year Traffic History on the Wollaston Barge Ferry



	1999	2000	2001	2002
Volume	559	625	648	565

The vehicle classification system used at Wollaston is different than that used by the rest of the ferry system. The three codes used at the Wollaston Barge ferry are based on the fee structure charged to the different vehicle types.

Chart 6.1A 2002 Vehicle Types Using the Wollaston Barge Ferry



	1997	1998	1999	2000	2001	2002
Truck %			38.3	42.7	41.5	45.0

Code 1 - Single Light Vehicle - car, truck (less then a 1 ton), motorcycle, etc.

Code 2 - Other - includes single vehicles with trailer, trucks over one ton, etc.

Code 3 - Full - Any semi trailer, construction equipment, etc.

The Wollaston ferry carried the highest percentage of commercial vehicles in the province at approximately 45 per cent. Other than by air, this ferry provides the only summer access to Wollaston Lake. There are few passenger trips because the community is small and the trip to the nearest community is quite long.

7.0 Passengers

The table below summarizes the 2002 monthly number of passengers for the cable ferry sites. Historic passenger volumes for these ferries are shown in Appendix E.

Table 6. Monthly Ferry Passenger Volumes for the 2002 Season

Ferry	April	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
Clarkboro	1 263	13 043	13 856	13 993	14 214	11 302	11 296	1 559		**80 526**
Riverhurst		7 795	10 481	17 697	14 241	7 605	6 827	5 018	1 036	**70 700**
Paynton		5 353	10 292	10 996	10 455	7 987	5 494			**50 577**
Weldon		6 292	9 473	7 877	8 439	7 113	4 813			**44 007**
St. Laurent		N/C	N/C	N/C	N/C	N/C	N/C			**N/C**
Cecil		2 726	4 195	4 689	4 488	3 892	2 122			**22 112**
Lemsford	379	2 534	2 471	4 759	3 305	2 477	2 125			**18 050**
Hague		2 945	3 059	3 403	2 908	2 576	2 149			**17 040**
Wingard		2 821	7 216	4 030	2 835	2 348	2 021			**21 271**
Estuary	326	2 390	1 277	2 824	3 285	2 231	2 298			**14 631**
Fenton		1 364	2 027	2 438	1 796	1 780	1 430			**10 835**
Lancer	487	1 464	759	1 576	2 204	2 005	1 497			**9 992**
Totals	**2 455**	**48 727**	**65 106**	**74 282**	**68 170**	**51 316**	**42 072**	**6 577**	**1 036**	**359 741**

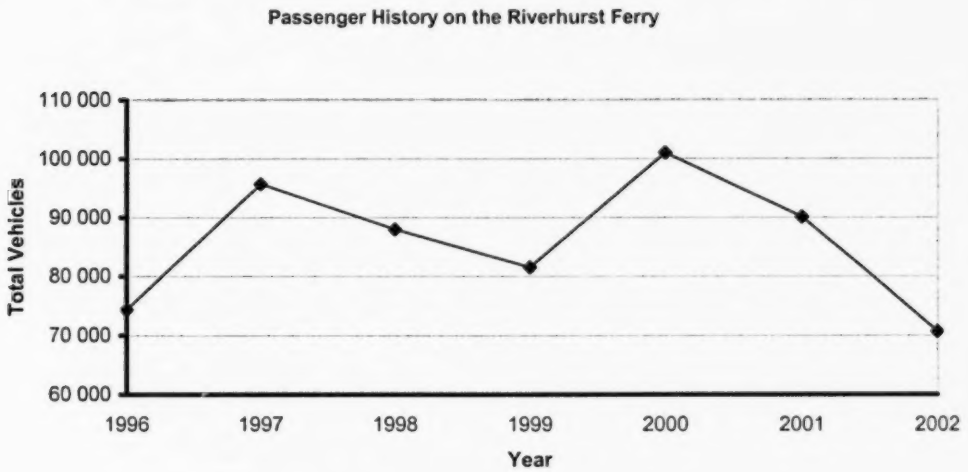
N/C – Not Collected

The passenger volumes were first recorded in 2000, except for Riverhurst where volumes have been recorded since 1996. Passenger totals for St. Laurent have never been recorded.

7.1 Moose Jaw Area

The Riverhurst ferry has been recording passenger volumes since 1996.

Chart 7.1A Passenger History on the Riverhurst Ferry



	1996	1997	1998	1999	2000	2001	2002
Passengers	74 355	95 671	87 956	81 526	100 979	90 056	70 700
Pass/Vehicle	2.04	1.88	1.92	1.92	2.02	1.88	1.88

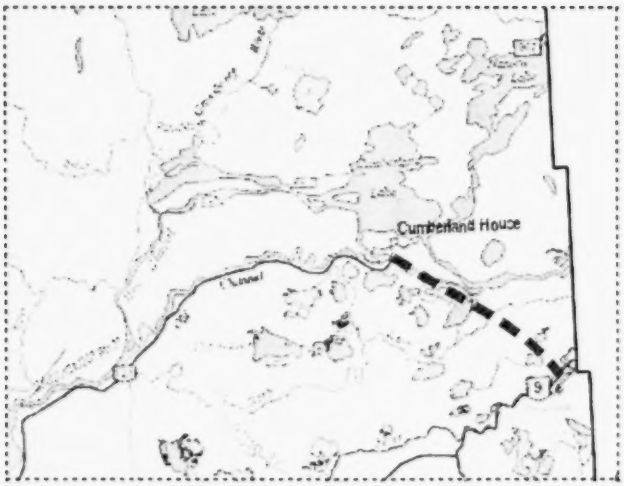
The 2002 volume of passengers on the Riverhurst ferry decreased by over 21 per cent and is below the seven year average of 85 900.

8.0 Seasonal Roads

Three of the four seasonal roads were operated by the Department in 2002: the Cumberland House road (52 km), the Wollaston Lake road (46 km) and the Athabasca Basin road (355 km). The Riverhurst Seasonal Road was not officially opened in 2002.

The length of seasonal roads varies from year to year depending on winter conditions. Local traffic often uses the roads both before and after the official season. The ice has to be sufficiently thick and the road completely constructed before the Department officially allows travel on a seasonal road.

8.1 Cumberland House Seasonal Road



The Cumberland House seasonal road has been operating since 1992-1993. The Cumberland House road officially opened to local traffic on January 11, 2002 and closed March 28, 2002. The road is 52 km long and intersects with the north end of Highway No. 9 just west of the Manitoba boundary.

The seasonal road was open for traffic for 77 days in 2002. An estimated 10 vehicles per day used the road in 2002, for a total of 770 vehicles during the operating season. Total expenditures for the Cumberland House road in the 2001-02 fiscal year were $13,113 for a unit cost of $252 per km or $170 per day of operation. The 10 year history of the Cumberland House seasonal road is shown in table below.

Table 7. 10 Year History of the Cumberland Seasonal Road

Year	Opening	Closing	Length (days)	Cost
1992-93	13-Jan	5-Mar	52	$27,685
1993-94	24-Jan	29-Mar	65	$18,000
1994-95	10-Jan	28-Mar	78	$2,707
1995-96	1-Dec	12-Mar	103	$50,145*
1996-97	5-Jan	26-Mar	81	$19,702*
1997-98	19-Jan	24-Mar	65	$3,610
1998-99	8-Dec	3-Mar	86	$4,524
1999-00	5-Jan	22-Mar	78	$4,500
2000-01	3-Jan	14-Mar	71	$14,242
2001-02	11-Jan	28-Mar	77	$13,113

* Significant Clearing and Grubbing Operation

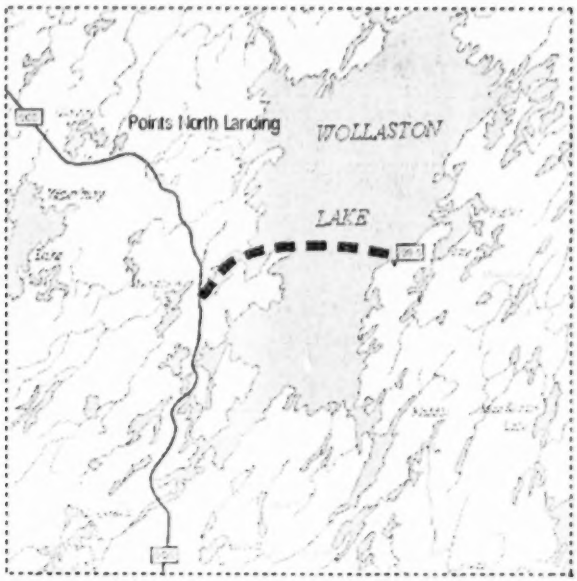
8.2 Riverhurst Seasonal Road

The Riverhurst seasonal road was not officially opened in 2002. The Riverhurst seasonal road has operated intermittently for many years. In years when an official road is opened, the Department establishes and maintains it. The Department may decide not to open the seasonal road if the ice does not become sufficiently thick early in the season. Often, local residents will create their own winter trail across the ice in the years that the Department opts not to open a seasonal road. There is no official operational record of these years. The 10 year history of the Riverhurst seasonal road is shown in table below.

Table 8. 10 Year History of the Riverhurst Seasonal Road

Year	Opening	Closing	Length(days)
1993	25-Jan	3-Mar	38
1994	9-Mar	14-Mar	5
1995	23-Jan	11-Mar	47
1996	11-Jan	7-Apr	87
1997	20-Jan	20-Mar	60
1998	N/A	N/A	N/A
1999	1-Feb	19-Mar	47
2000	N/A	N/A	N/A
2001	4-Mar	12-Mar	9
2002	N/A	N/A	N/A

8.3 Wollaston Lake Ice Road

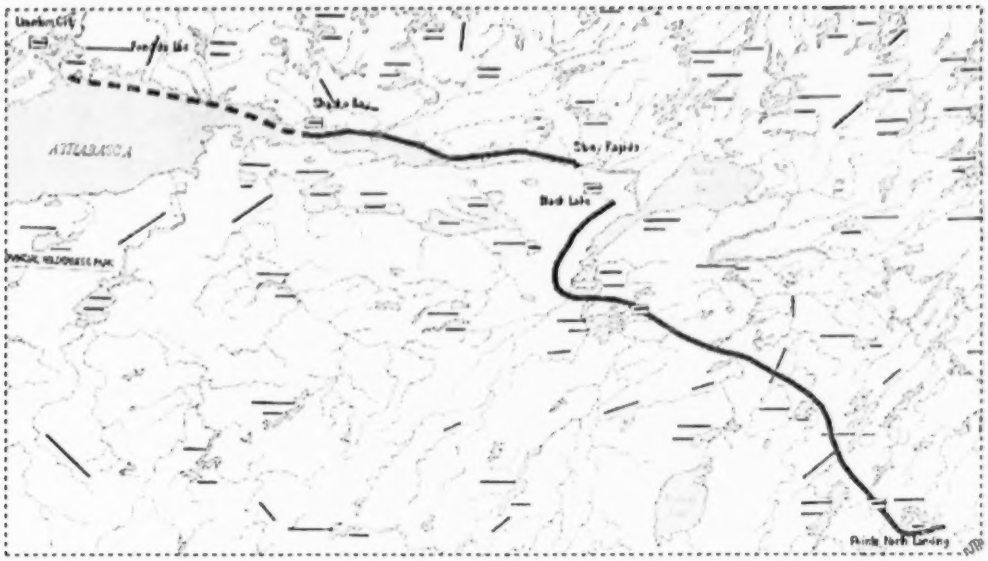


The Wollaston Lake ice road is 45.5 km long and crosses the ice on Wollaston Lake to provide access to the residents of the community of Wollaston Lake. It was established and maintained by the Hatchet Lake Economic Development Corporation for the Department. 2002 road construction started January 15 and was completed January 23. The 2002 season officially started for suggested safe maximum loads of 30 000 kg February 12 and ended April 5. The total cost was $99,158 for a unit cost of $2,179 per km and $1,871 per day. An estimated 200 vehicles per week used the roadway, for a total of 1 510 vehicles during the operating season. The operational history of the Wollaston Lake ice road is shown in Table 9 below.

Table 9. History of the Wollaston Lake Ice Road

Year	Opening	Closing	Length(days)	Cost
1997-98	11-Jan	31-Mar	80	$128,000
1998-99	15-Feb	31-Mar	45	$129,000
1999-00	17-Jan	31-Mar	75	$126,666
2000-01	20-Feb	8-Apr	46	$95,844
2001-02	12-Feb	5-Apr	53	$99,158

8.4 Athabasca Basin Seasonal Road



The Athabasca Basin seasonal road is maintained by the Athabasca Basin Trading and Development Corporation for the Department. Four separate road sections form the Athabasca Basin seasonal road. Over 180 km from Points North to Black Lake and 51 km from Stony Rapids to Shasko Bay are currently bladed trails that require extensive yearly repair work. The section from Shasko Bay to Uranium City is an ice road across Lake Athabasca. Winter conditions were not very favourable in the 2001-02 fiscal year, leading to an inadequate traveling surface until late January. Lack of snow in the fall of 2001 prevented maintenance equipment from covering rocky areas and packing the surface.

The combined length from Points North to Uranium City is 355 km. The total cost of building and maintaining the four seasonal roads was $868,091 for a unit cost of $2,445 per km. An estimated 3 000 vehicles including 200 confirmed loads of freight used the road in the 2001-02 winter. Historical data for the sections are shown in the tables below.

Table 10. History of the Athabasca Seasonal Road (Points North to Black Lake)

Year	Opening	Closing	Length (days)	Length (km)	Cost
1999-00	1-Nov	31-Mar	152	180	$648,433
2000-01	6-Dec	31-Mar	116	180	$465,944
2001-02	6-Dec	12-Apr	128	180	$616,347

Table 11. History of the Athabasca Seasonal Road (Stony Rapids to Shasko Bay)

Year	Opening	Closing	Length (days)	Length (km)	Cost
1999-00	1-Feb	31-Mar	60	51	$145,019
2000-01	6-Dec	31-Mar	116	51	$370,361
2001-02	26-Feb	5-Apr	39	51	$95,459

Table 12. History of the Athabasca Seasonal Road (Shasko Bay to Fond du Lac)

Year	Opening	Closing	Length (days)	Length (km)	Cost
1999-00		31-Mar	N/A	32	$98,544
2000-01	8-Feb	31-Mar	52	32	$113,305
2001-02	26-Feb	5-Apr	39	32	$118,713

Table 13. History of the Athabasca Seasonal Road (Fond du Lac to Uranium City)

Year	Opening	Closing	Length (days)	Length (km)	Cost
1999-00	1-Mar	31-Mar	31	100	$15,318
2000-01	26-Feb	6-Mar	9	85	$39,359
2001-02	6-Mar	22-Mar	17	92	$37,572

9.0 Conclusions

Year by year traffic fluctuations at individual ferries are related to the operating season length, river conditions and local economic activity. In 2002, the ferry system operated below the 10 year average traffic levels. Six ferries even recorded 10 year lows. 2002 had the shortest operating season in the last five years. Only the Lancer ferry carried more traffic in 2002 than in 2001. This occurred because the Lancer ferry was shut down early in 2001 due to the formation of a sandbar. Paynton and Cecil were the only ferries that had a higher ADT in 2002 compared with 2001.

High water levels on the South Saskatchewan River caused temporary closures of the Lemsford, Estuary and Lancer ferries in June and July. Only light loads were allowed on the ferries for a few days before and after the temporary closures.

The seasonal roads continue to provide a valuable service to isolated communities.

9.1 Operating Season/Downtime

- In 2002, most ferries started later and closed earlier than in 2001.
- As in previous years, the Riverhurst ferry had the longest operating season, extending into December 2002.
- The Lemsford, Estuary and Lancer ferries shut down in June and July due to high water levels. Lemsford was closed for seven days, Estuary for 23 days and Lancer for 24 days.
- Mechanical problems at all of the ferries were fixed within a reasonable amount of time.
- Seasonal road operation is driven primarily by the timing and the severity of winter weather.

9.2 Traffic Volumes

- Seven ferries carried more than 20 per cent fewer vehicles in 2002 compared with 2001.
- Only the Paynton and Cecil ferries had a higher ADT in 2002 than in 2001. In both cases, the increase was six per cent.
- Lemsford ferry traffic decreased by 36 per cent over the record high in 2001. The decrease at Lemsford can be directly attributed to the early shut down of the neighbouring Lancer ferry in 2001.
- Traffic on the Lancer ferry increased by 66 per cent in 2002 compared to traffic volumes in 2001 because the ferry closed early in the 2001 season.

9.3 Vehicle Classifications

- The Riverhurst, Hague and Wingard ferries have a high percentage of "other" vehicles, which are normally interpreted as farming and recreational vehicles.
- The Paynton, Cecil and Estuary ferries have a large percentage of straight trucks, which are used primarily for short distance hauling. Starting in July, the "other" vehicles were combined with the straight trucks in the traffic records at the Estuary ferry.
- Riverhurst and Paynton ferries have the highest percentage of single and multi trailer semi trucks, at five and four per cent respectively.
- Truck percentages doubled at the Lemsford ferry since 2001 and at the St. Laurent ferry since 2000.

10.0 Recommendation

The Department require the operators of the Wollaston Barge ferry to collect vehicle type information using the classification system used by the rest of the ferries when the operating agreement is renegotiated.

Appendix A

Saskatchewan Highways and Transportation

Ferry Traffic Data Summary

Ferry crossing _____ Month of _____

Day	LGT	Straight Trucks	Semi Trailer	Multi Trailer	No. Pass	Other	Comments
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
Totals							

Statement Certified Correct

_____

Ferry operator

KEY

LGT	-Cars & Pickups
Straight Trucks	-Non-articulated
Semi Trailer	-Single Trailer
Multi-Trailer	-2 or more Trailers

Notes:

1) "Other" includes farm or construction equipment etc.
2) Give details of "other" in "Comments" ie: dangerous goods, equipment type, product hauled etc.

Saskatchewan Highways and Transportation

Ferry Traffic Data Summary

Ferry crossing_____ File No._____ Month of_____, 200__

Shift						
Day	LGT	Straight Trucks	Semi Trailer	Multi Trailer	No. Pass	Other
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
Totals						

Statement Certified Correct

_____

Ferry operator

KEY

LGT	-Cars & Pickups
Straight Trucks	-Non-articulated
Semi Trailer	-Single Trailer
Multi-Trailer	-2 or more Trailers

Notes:

1) "Other" includes farm or construction equipment etc.
2) Give details in "Comments" ie: dangerous goods, equipment type, product hauled etc.

Riverhurst Ferry Traffic Data

Sheet No. _____

Date_____ Shift_____ Operators 1. _____ 2. _____

Departure Time	LGT	Straight Trucks	Semi Trailer	Multi Trailer	Other	Pass-engers	Comments	Engine R.P.M.	Weather Wind(Kmh)	Sky	Surface	Temp
Totals												

Statement Certified Correct

_____

Ferry operator

Regular crew Name (please print)	Casual crew called Name	Accept	Refuse

		Main Engine	Genset 1	Genset 2
Hourmeter	Start			
	Finish			
Engine oil pressure				
Engine Coolant temp.				
Torque Converter Temp.				
Torque Converter Pres.				
Engine oil added				
Engine Coolant added				
Torque Conv. oil added				
Transmission oil added				
Final drive oil added				
Hydraulic oil	East Ramp_____		West Ramp_____	

Remarks (Weather, Servicing, etc)

Appendix B

2002 Ferry Downtime

Ferry	Date	Hours	2002 Total Downtime	% of Time Out of Service	Reason
Clarkboro	October 31	12	12	0.5	Ice
Riverhurst	June 6 June 25 June 29 July 17 September 19 to 22	6 11 12 9 78	116	2.2	Wind Repairs Repair Cable Repair Pulley Repair Cable
Lemsford	June 13 to 14 June 20 to 24	24 60	84	3.7	High Water High Water
Wingard	July 14 to 17	48	48	2.3	Low Water
Estuary	June 12 to July 5 October 1 to 4	281 48	329	14.4	High Water Low Water
Fenton	August 3 to 9	78	78	3.9	Sandbar
Lancer	June 13 to July 6	284	284	12.2	High Water

Appendix C

Historic Traffic Volumes

Ferry	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Average
Clarkboro	34 291	37 284	34 674	42 448	31 975	39 338	42 991	40 839	52 185	53 780	58 667	47 235	**42 976**
Riverhurst	32 613	38 835	40 242	40 076	41 291	36 449	50 766	45 763	42 424	50 010	47 867	37 578	**41 993**
Paynton	28 662	34 293	42 058	30 686	30 453	30 172	34 365	32 453	28 808	33 749	31 348	28 910	**32 163**
Weldon	27 586	28 460	24 754	30 465	26 268	29 657	29 455	28 003	30 382	27 770	25 875	22 461	**27 595**
St.Laurent	25 842	24 017	18 556	20 421	30 030	19 875	16 987	17 133	29 143	29 980	23 796	18 102	**22 824**
Cecil	12 054	13 887	13 210	12 752	12 678	11 603	11 303	11 234	11 016	11 484	13 073	11 873	**12 181**
Lemsford	13 368	13 588	13 381	13 471	12 170	12 805	14 393	11 849	11 730	11 623	15 659	10 031	**12 839**
Hague	13 258	15 700	20 883	14 442	12 425	11 961	14 577	13 122	12 845	12 156	12 652	10 006	**13 669**
Wingard	9 511	10 628	10 115	10 719	10 687	9 878	9 420	12 467	12 227	12 791	13 158	9 368	**10 914**
Estuary	7 172	7 900	8 153	7 278	6 844	8 463	9 058	9 217	9 793	10 437	9 541	6 712	**8 381**
Fenton	3 079	7 394	6 517	9 730	8 582	8 366	8 716	8 324	9 640	8 533	8 563	6 461	**7 825**
Lancer	5 779	6 928	7 047	7 649	5 673	6 789	6 685	6 967	7 604	7 421	3 324	5 503	**6 447**
Cumberland	20 891	23 192	24 000	23 041	28 198	19 082	Closed	Closed	Closed	Closed	Closed	Closed	**23 067**
Total	**234 106**	**262 106**	**263 590**	**263 178**	**257 274**	**244 438**	**248 716**	**237 371**	**257 797**	**269 734**	**263 523**	**214 240**	**251 339**

Appendix D

Historic Average Daily Traffic (ADT)

Ferry	1997	1998	1999	2000	2001	2002	Average
Clarkboro	218	206	234	255	256	239	**235**
Riverhurst	213	190	174	216	204	176	**196**
Paynton	210	159	141	170	158	167	**167**
Weldon	153	142	159	141	135	133	**144**
St.Laurent	91	85	130	147	111	99	**110**
Cecil	59	57	58	57	67	71	**62**
Lemsford	68	58	52	58	69	55	**60**
Hague	75	68	58	61	59	55	**63**
Wingard	50	63	63	63	66	54	**60**
Estuary	44	47	44	52	48	41	**46**
Fenton	45	43	51	45	45	40	**45**
Lancer	33	33	34	37	34	32	**34**
Total	**1 261**	**1 152**	**1 199**	**1 302**	**1 251**	**1 163**	**1 221**

Appendix E

Historic Passenger Volumes

Ferry	2000	2001	2002	Average
Clarkboro	69 292	98 654	80 526	**82 824**
Riverhurst	100 979	90 056	70 700	**85 892**
Paynton	60 119	55 475	50 577	**55 390**
Weldon	N/A	49 555	44 007	**46 781**
St.Laurent	N/A	N/A	N/A	**N/A**
Cecil	N/A	24 098	22 112	**23 105**
Lemsford	21 548	28 651	18 050	**22 750**
Hague	13 705	22 221	17 040	**17 655**
Wingard	24 417	33 260	21 271	**26 316**
Estuary	19 152	18 045	14 631	**17 276**
Fenton	N/A	13 236	10 835	**12 036**
Lancer	13 668	6 113	9 992	**9 924**
Total	**322 880**	**439 364**	**359 741**	**373 995**

** Riverhurst Average Includes Volumes from 1996 to 2002